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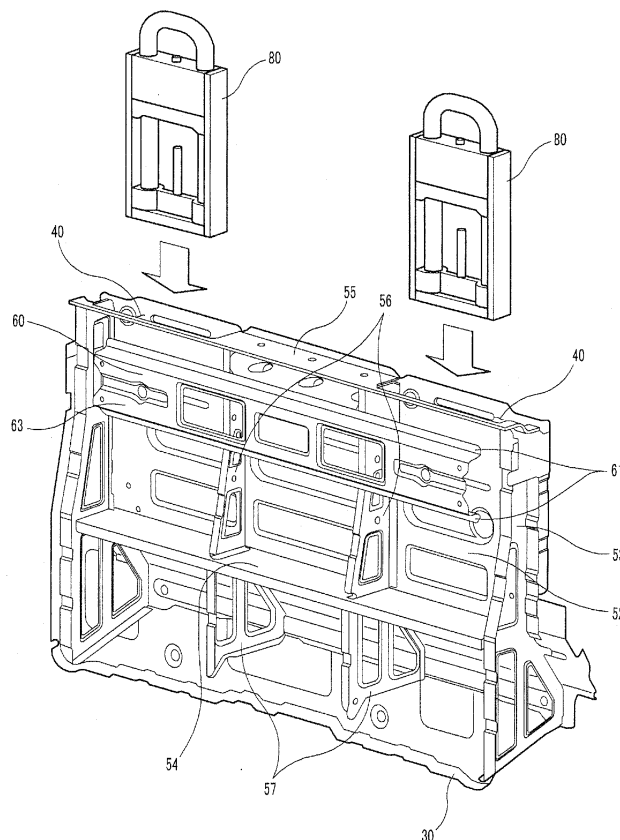
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(54) Baffle structure of vehicle

(57) A baffle structure according to an exemplary embodiment of the present invention includes a baffle including an ROPS, a reinforcement member for reinforcing the rigidity of the baffle, and a connecting member

for connecting the reinforcement member and a side member of the vehicle. According to an exemplary embodiment of the present invention, in a case that a side impact is incurred, the impact is transmitted to the center of the vehicle so that the impact is absorbed efficiently.

FIG. 2



EP 1 932 728 A2

Description**CROSS-REFERENCE TO RELATED APPLICATION**

5 [0001] This application claims priority to and the benefit of Korean Patent Application No. 10-2006-0127814 filed in the Korean Intellectual Property Office on December 14, 2006, the entire contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION**(a) Field of the Invention**

10 [0002] The present invention relates to a baffle structure of a vehicle. More particularly, the present invention relates to a baffle structure of a convertible vehicle that is applied to a Roll-Over Protection System.

(b) Description of the Related Art

15 [0003] Generally, a Roll-Over Protection System (hereinafter, referred to as "ROPS") is applied to a convertible vehicle for the first time. Considering that the rate of rollover of a convertible vehicle is higher than that of a normal passenger vehicle, the ROPS is applied with a Roll Stability Control (hereinafter, referred to as "RSC") so that driving stability is enhanced.

20 [0004] The RSC makes use of a gyro sensor, installed in each wheel, that measures a pitching angle, a rolling angle, a speed, and a steering wheel angle of the vehicle, and the RSC anticipates rollover possibility using the information.

25 [0005] In the case that the vehicle is in danger of roll over, the RSC is operated so that the vehicle is stabilized. If at a low speed, an ABS is operated, while if at a high speed, an engine torque is reduced.

[0006] In a case that the vehicle rolls over in spite of the RSC operation, passengers are protected by a curtain type air bag and a frame having high rigidity. Born steel, which is 4 or 5 times stronger than normal steel, is applied to the roof of the vehicle, and seat belts are configured to all seats to protect passengers.

30 [0007] The ROPS is provided to a baffle box in a cassette type to protect passengers.

[0008] In a general baffle structure, as shown in FIG. 1, a side member 5 configuring the ROPS is connected to one side of a connecting panel 3, and the other side of the connecting panel 3 is connected to a side quarter panel 1.

35 [0009] In the general baffle structure, in the case that a side impact is incurred, a part of the impact is transmitted in the "a" direction via a rear floor member and another part of the impact is transmitted to the baffle via the connecting panel 3. However, it is inefficient because the impact is not transmitted to the center of the vehicle.

[0010] The above information disclosed in this Background section is only for enhancement of understanding of the background of the invention and therefore it may contain information that does not form the prior art that is already known in this country to a person of ordinary skill in the art.

SUMMARY OF THE INVENTION

40 [0011] The present invention has been made in an effort to provide a baffle structure of a vehicle having the advantage of removing a discontinuous section of an installation part where the ROPS is installed so that a side impact may be transmitted efficiently.

45 [0012] A baffle structure according to an exemplary embodiment of the present invention includes a baffle with the ROPS installed therein, a reinforcement member for reinforcing the rigidity of the baffle, and a connecting member for connecting the reinforcement member and a side member of the vehicle.

BRIEF DESCRIPTION OF THE DRAWINGS

50 [0013]

FIG. 1 is a perspective view of a general baffle structure of a vehicle.

FIG. 2 is a perspective view of a baffle structure of a vehicle according to an exemplary embodiment of the present invention.

55 FIG. 3 is a side view of the baffle structure of a vehicle according to the exemplary embodiment of the present invention.

FIG. 4 is a perspective view showing the transmission path of impact energy when a side impact is incurred.

<Description of Reference Numerals Indicating Primary Elements in the Drawings>

[0014]

5	30: rear floor member	40: opening
	51: front member	52: rear member
	53: side member	54: lower member
	55: upper member	56: first center member
10	60: reinforcement member	61: connecting flange
	63: center portion	70: connecting member
	80: ROPS	90: side member

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0015] An exemplary embodiment of the present invention will hereinafter be described in detail with reference to the accompanying drawings.

[0016] FIG. 2 is a perspective view of a baffle structure of a vehicle according to an exemplary embodiment of the present invention, and FIG. 3 is a side view of the baffle structure of a vehicle according to the exemplary embodiment of the present invention.

[0017] FIG. 4 is a perspective view showing the transmission path of impact energy when a side impact is incurred.

[0018] A baffle structure of a vehicle according to an exemplary embodiment of the present invention includes a baffle with the ROPS 80 installed therein, a reinforcement member 60 for reinforcing the rigidity of the baffle, and a connecting member 70 for connecting the reinforcement member 60 and a side member of the vehicle.

[0019] The baffle includes a front member 51 and a rear member 52, which are configured on a rear floor member 30 and form a space. A side member 53 is connected to the front member 51 and the rear member 52 at end sides of the front member 51 and the rear member 52. A lower member 54 is connected to the front member 51, the rear member 52, and the side member 53, wherein the lower member 54 horizontally divides the space that is formed by the front member 51 and the rear member 52. An upper member 55 is connected to upper sides of the front member 51 and the rear member 52. A first center member 56 is connected to the front member 51, the rear member 52, and the lower member 54, wherein the first center member 56 vertically divides the space that is divided by the lower member 54.

[0020] A second center member 57 is disposed under the lower member 54 for supporting the lower member 54.

[0021] The ROPS 80 is configured through an opening 40, which is formed on both sides of the upper member 55.

[0022] The reinforcement member 60 is connected to the front member 51.

[0023] The reinforcement member 60 includes a connecting flange 61 connected to the front member 51, and a center portion 63 that is bent at the connecting flange 61 and is disposed apart from the front member 51.

[0024] FIG. 4 is a perspective view showing the transmission path of impact energy when a side impact is incurred.

[0025] As shown in FIG. 4, in the case that a side impact is incurred, a part of the impact is transmitted in the "c" direction via the rear floor member 30 and another part of the impact is transmitted to the baffle via the connecting member 70, namely the impact is transmitted in the "d" direction.

[0026] Describing in detail, the side impact is transmitted to the reinforcement member 60 disposed in the center of the vehicle via the connecting member 70 so that the impact is absorbed efficiently.

[0027] In the baffle structure according to an exemplary embodiment of the present invention, in the case that a side impact is incurred the impact is transmitted to the center of the vehicle so that the impact is absorbed efficiently.

[0028] While this invention has been described in connection with what is presently considered to be practical exemplary embodiments, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

Claims

1. A baffle structure provided to a vehicle, comprising:

- a baffle including an ROPS;
- a reinforcement member reinforcing the rigidity of the baffle; and
- a connecting member for connecting the reinforcement member and a side member of the vehicle.

2. The baffle structure of claim 1,
wherein the baffle comprises:

5 a rear floor member;
a front member disposed on the rear floor member;
a rear member, apart from the front member, disposed on the rear floor member;
a side member connected to end sides of the front member and the rear member;
a lower member connected to the front member, the rear member, and the side member;
10 an upper member, which is parallel with the lower member, connected to upper parts of the front member and
the rear member; and
a first center member, which is perpendicular to the rear floor member, connected to the front member, the rear
member, the upper member, and the lower member.

- 15 3. The baffle structure of claim 2, wherein the baffle further comprises a second center member, which is perpendicular
to the rear floor member and is connected to the front member, the rear member, and the lower member so that the
second center member supports the first center member.

4. The baffle structure of claim 3, wherein the reinforcement member is connected to the front member.

- 20 5. The baffle structure of claim 4, wherein the reinforcement member comprises:

a connecting flange connected to the front member; and
a center portion that is bent at the connecting flange and is disposed apart from the front member.

FIG. 1

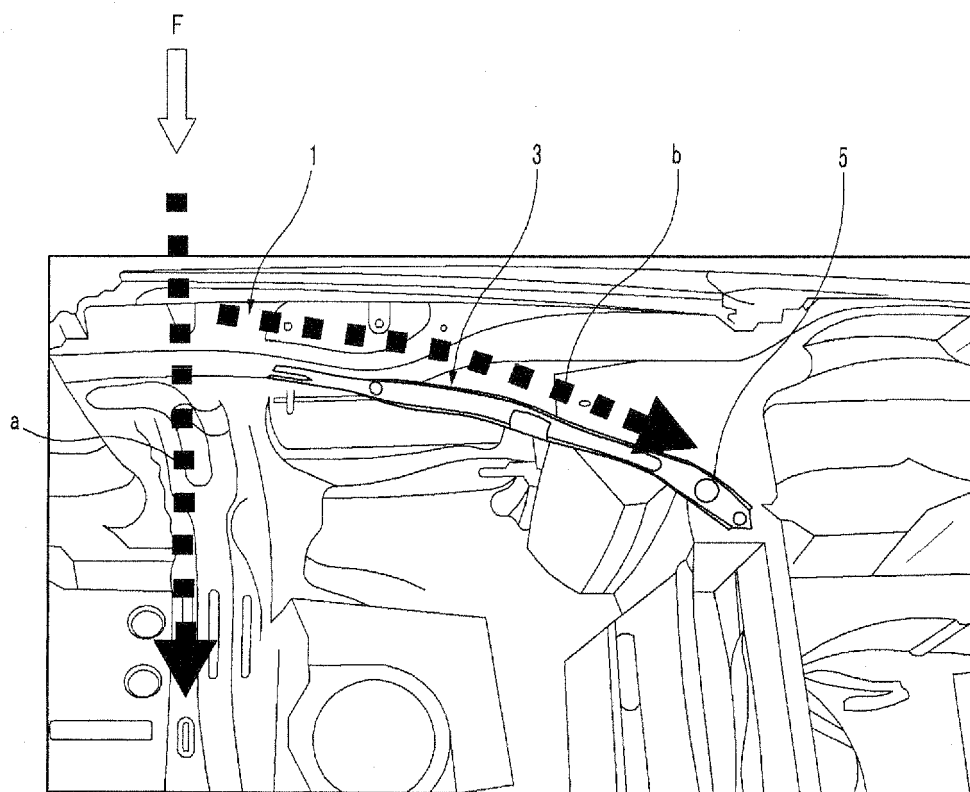


FIG. 2

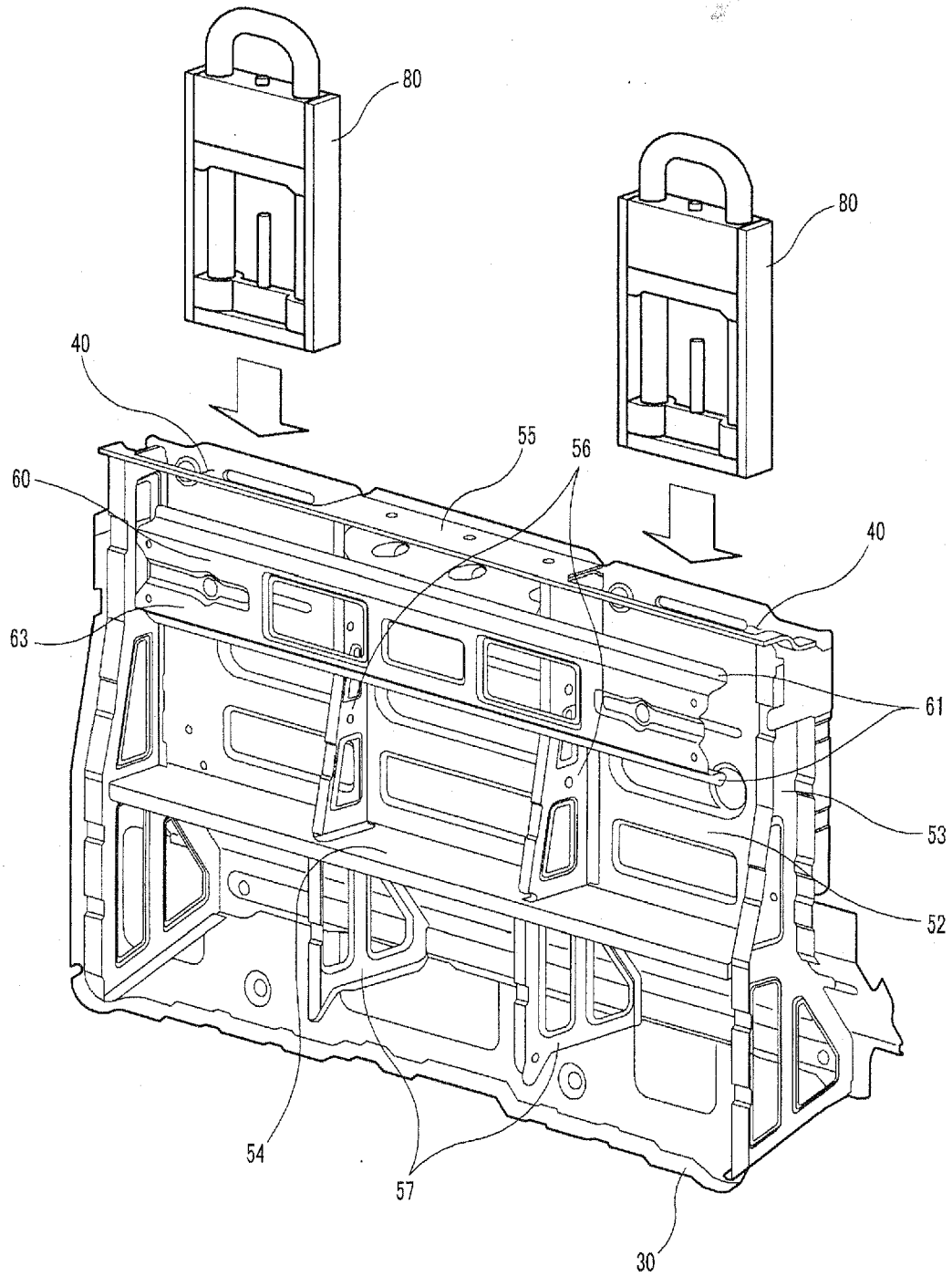


FIG. 3

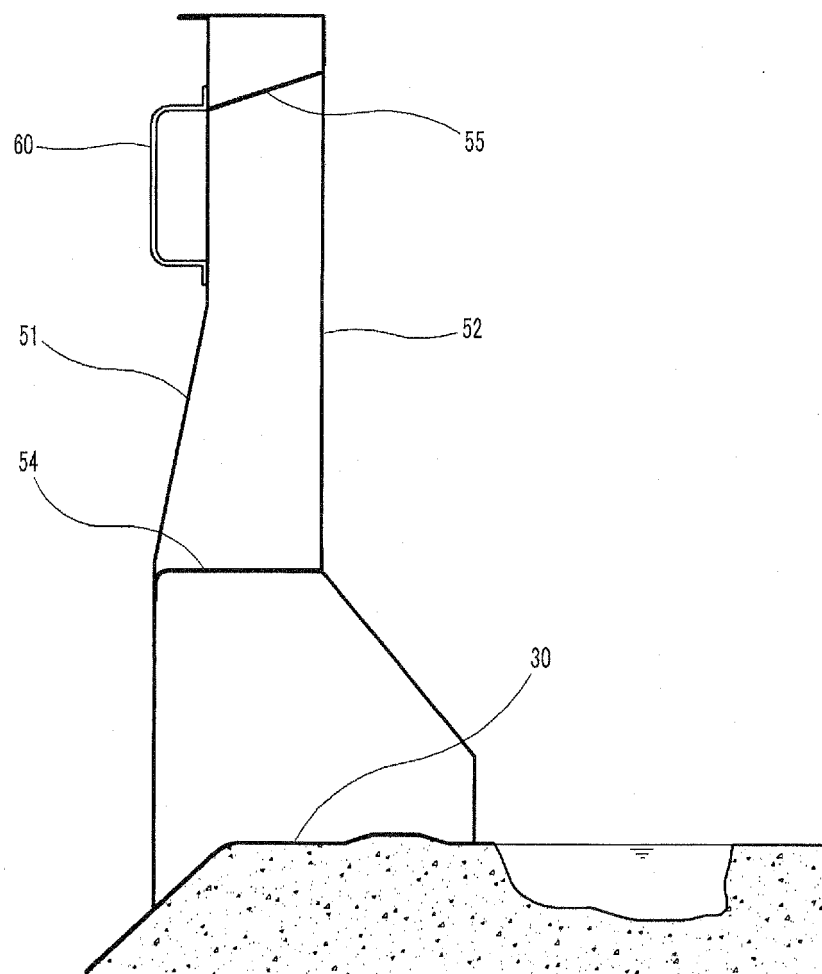
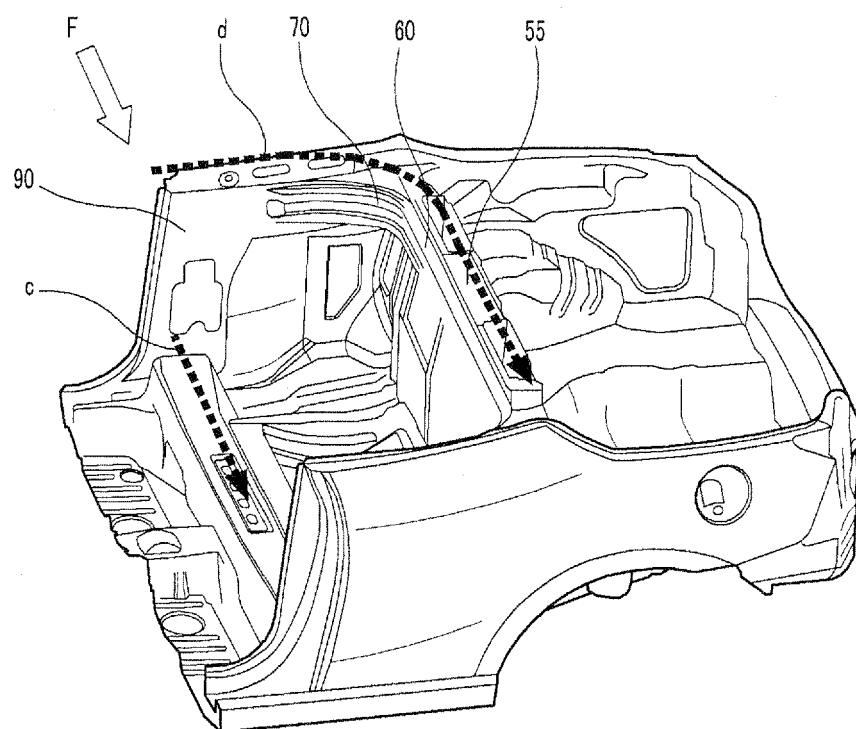


FIG. 4



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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